Claims

1. An aqueous neutral to mildly alkaline metal bicarbonate solution, comprising metal bicarbonate dissolved in the solution, said metal bicarbonate comprising bicarbonate anions and metal cations, and a pH adjusting agent in the solution in an amount whereby the solution is at a neutral to mildly alkaline pH.

2. The aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1, wherein the metal bicarbonate is selected from the group consisting of magnesium bicarbonate, sodium bicarbonate, a mixture of sodium bicarbonate and magnesium bicarbonate, potassium bicarbonate, a mixture of potassium bicarbonate and magnesium bicarbonate, calcium bicarbonate, a mixture of calcium bicarbonate and magnesium bicarbonate, lithium bicarbonate, and a mixture of lithium bicarbonate and magnesium bicarbonate.

3. The aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1, wherein the bicarbonate anions are 150mg to 3500mg per litre of the solution.

4. The aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1, wherein the metal cations are 30mg to 500mg per litre of the solution.

5. The aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1, wherein a stoichiometric concentration of metal cations is in association with the bicarbonate anions.

6. The aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1, wherein the pH adjusting agent is selected from the group consisting of carbon dioxide, hydrated carbon dioxide, carbonic acid and any mixture thereof.

7. The aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1, wherein the aqueous metal bicarbonate solution has a pH 7 to 8.6.

8. The aqueous metal bicarbonate solution of claim 1, wherein the aqueous neutral to mildly alkaline metal bicarbonate solution has a pH of 8.0 to 8.6.

9. The aqueous metal bicarbonate solution of claim 1, wherein the aqueous neutral to mildly alkaline metal bicarbonate solution has a temperature in the range selected from the group consisting of 0 to 25°C, 0 to 20°C, 0.5 to 25°C, 0.5 to 20°C, 0.5 to 15°C, 0.5 to 10°C, 0.5 to 9°C, 0.5 to 8°C, 0.5 to 7°C, 1 to 20°C, 1 to 15°C, 1 to 10°C, 1.5 to 20°C, 1.5 to 15°C, 1.5 to 10°C, 2 to 20°C, 2 to 15°C, 2 to 10°C, 3 to 20°C, 3 to 15°C, 4 to

20°C, 4 to 15°C, 4 to 10°C, 5 to 20°C, 5 to 15°C, 6 to 20°C, 6 to 15°C, 6 to 10°C, 7 to 20°C, 7 to 15°C, 7 to 10°C, 8 to 20°C, 8 to 15°C, 8 to 10°C, 9 to 20°C, 9 to 15°C, 9 to 10°C, 10 to 15°C, 0 to 15°C, 0 to 10°C, 3°C to 10°C and 5°C to 10°C.

10. The aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1, wherein the metal bicarbonate comprises a mixture of sodium bicarbonate and magnesium bicarbonate.

11. A solution for preventing and/or treating certain inflammatory diseases and/or degenerative diseases and/or certain viral diseases in a mammal, comprising the aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1 wherein the metal bicarbonate is in an amount effective to prevent and/or treat said diseases.

12. A solution for decreasing and/or treating senescence and/or increasing longevity in a mammal, comprising the aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1 wherein the metal bicarbonate is in an amount effective to decrease and/or treat senescence and/or increase longevity.

13. A solution for scavenging protons in a mammal, comprising the aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1 wherein the metal bicarbonate is in an amount effective to scavenge protons.

14. A solution for decreasing proton concentrations in a mammal, comprising the aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1 wherein the metal bicarbonate is in an amount effective to decrease proton concentrations.

15. A solution for decreasing inflammation and inflammatory conditions in a mammal , comprising the aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1 in an amount effective to decrease inflammation and/or inflammatory conditions.

16. A solution for increasing motor activity and/or decrease fatigue in a mammal, comprising the aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1 in an amount effective to increase motor activity.

17. A process of preparing an aqueous neutral to mildly alkaline metal bicarbonate solution comprising bicarbonate anions and metal cations, which process comprises reacting a compound selected from the group consisting of metal carbonate, metal carbonate hydroxide, metal oxide, metal hydroxide and any mixture thereof with an effective concentration of a pH adjusting agent to produce the aqueous neutral to mildly

alkaline metal bicarbonate solution, wherein the pH adjusting agent is present in an amount whereby the solution is at a neutral to mildly alkaline pH.

18. The process of preparing an aqueous neutral to mildly alkaline metal bicarbonate solution of claim 17, wherein the pH adjusting agent is selected from the group consisting of carbon dioxide, hydrated carbon dioxide, carbonic acid and any mixture thereof.

19. The process of preparing an aqueous neutral to mildly alkaline metal bicarbonate solution of claim 17, wherein the metal bicarbonate is selected from the group consisting of magnesium bicarbonate, sodium bicarbonate, a mixture of sodium bicarbonate and magnesium bicarbonate, potassium bicarbonate, a mixture of potassium bicarbonate and magnesium bicarbonate, calcium bicarbonate, a mixture of calcium bicarbonate and magnesium bicarbonate, lithium bicarbonate, and a mixture of lithium bicarbonate and magnesium bicarbonate.

20. The process of preparing an aqueous neutral to mildly alkaline metal bicarbonate solution of claim 17, wherein the bicarbonate anions are 150mg to 3500mg per litre of aqueous neutral to mildly alkaline metal bicarbonate solution.

21. The process of preparing an aqueous neutral to mildly alkaline metal bicarbonate solution of claim 17, wherein the metal cations are 30mg to 500mg per litre of aqueous neutral to mildly alkaline metal bicarbonate solution

22. The process of preparing an aqueous neutral to mildly alkaline metal bicarbonate solution of claim 17, wherein the aqueous neutral to mildly alkaline metal bicarbonate solution has a pH of 7 to 8.6.

23. The process of preparing an aqueous neutral to mildly alkaline metal bicarbonate solution of claim 17, wherein the aqueous metal bicarbonate solution has a pH of 8.0 to 8.6.

24. The process of preparing an aqueous neutral to mildly alkaline metal bicarbonate solution of claim 17, wherein the aqueous metal bicarbonate solution has a temperature in the range selected from the group consisting of 0 to 25°C, 0 to 20°C, 0.5 to 25°C, 0.5 to 20°C, 0.5 to 15°C, 0.5 to 10°C, 0.5 to 9°C, 0.5 to 8°C, 0.5 to 7°C, 1 to 20°C, 1 to 15°C, 1 to 10°C, 1.5 to 20°C, 1.5 to 15°C, 1.5 to 10°C, 2 to 20°C, 2 to 15°C, 2 to 10°C, 3 to 20°C, 3 to 15°C, 4 to 20°C, 4 to 15°C, 4 to 10°C, 5 to 20°C, 5 to 15°C, 6 to 20°C, 6 to 15°C, 6 to 10°C, 7 to 20°C, 7 to 15°C, 7 to 10°C, 8 to 20°C, 8 to 15°C, 8 to 10°C, 9 to

20°C, 9 to 15°C, 9 to 10°C, 10 to 15°C, 0 to 15°C, 0 to 10°C, 3°C to 10°C and 5°C to 10°C.

25. An aqueous neutral to mildly alkaline metal bicarbonate solution whenever prepared by the process of claim 17.

26. A method of preventing and/or treating certain inflammatory diseases and/or degenerative diseases in a mammal in need of such prevention and/or treatment comprising administering to said mammal an effective amount of an aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1.

27. A method of preventing and/or treating certain viral diseases in a mammal in need of such prevention and/or treatment comprising administering to said mammal an effective amount of an aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1.

28. A method of decreasing and/or treating senescence and/or of increasing longevity in a mammal comprising administering to said mammal an effective amount of an aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1.

29. A method of scavenging protons in a mammal comprising administering to said mammal an effective amount of a proton scavenger.

30. The method of claim 29, wherein said proton scavenger comprises the aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1.

31. The method of claim 29, wherein said proton scavenger is a metal bicarbonate.

32. A method of decreasing proton concentrations in a mammal by altering carbonic anhydrase enzyme reactions in said mammal comprising administering to said mammal an effective amount of an aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1.

33. A method of decreasing inflammation and/or inflammatory conditions in a mammal comprising administering to said mammal an effective amount of an aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1.

34. A method of increasing motor activity and/or decreasing fatigue in a mammal comprising administering to said mammal an effective amount of an aqueous neutral to mildly alkaline metal bicarbonate solution of claim 1.

35. The method of any one of claims 26, 27, 30, 31, 32, 33 or 34, wherein said mammal is human and said aqueous neutral to mildly alkaline metal bicarbonate solution is administered to said human on an empty stomach.

36. The method of any one of claims 26, 27, 30, 31, 32, 33 or 34, wherein said mammal is human, said aqueous neutral to mildly alkaline metal bicarbonate solution is administered to said human on an empty stomach and the metal bicarbonate comprises a mixture of sodium bicarbonate and magnesium bicarbonate.

37. A combination comprising a substantially stable aqueous neutral to mildly alkaline metal bicarbonate solution, comprising metal bicarbonate dissolved in the solution, said metal bicarbonate comprising bicarbonate anions and metal cations, and a pH adjusting agent in the solution in an amount whereby the solution is at a neutral to mildly alkaline pH, in combination with a stabilising agent in an amount effective to maintain and stabilise the bicarbonate anions in the neutral to mildly alkaline solution.